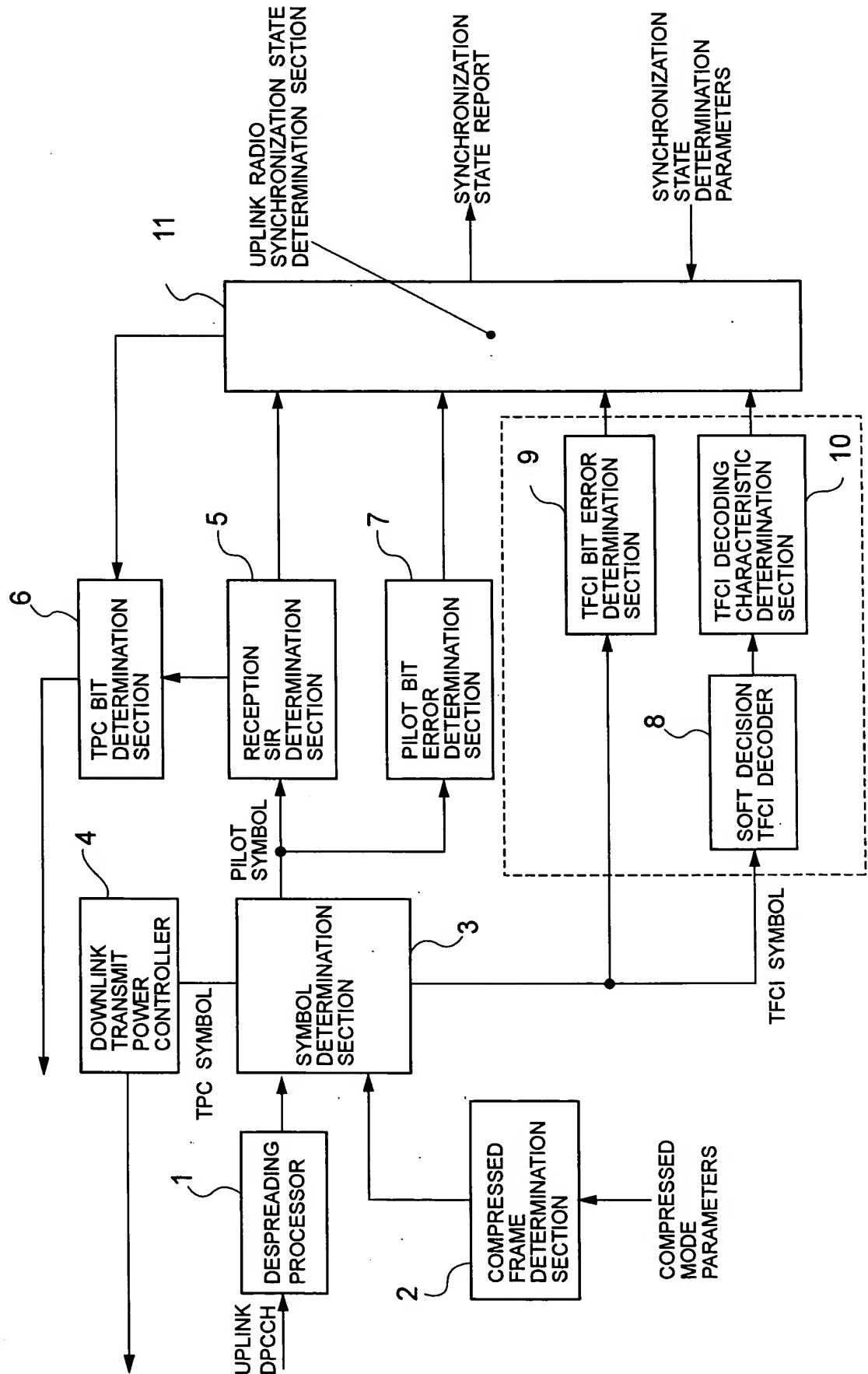


FIG. 1



The diagram illustrates a TFCI decoding apparatus with the following components and signal flow:

- SOFT DECISION TFCI SYMBOL**: The input signal, which branches into two paths.
  - Path 1 (labeled **8**): Enters the **SOFT DECISION TFCI DECODER** (dashed box **8**), which contains:
    - DATA BIT REPLACEMENT UNIT** (labeled **81**): The first unit in the decoder chain.
    - FAST HADAMARD TRANSFORM UNIT** (labeled **82**): Receives input from unit 81.
  - Path 2: Bypasses the decoder and goes directly to the **HARD DECISION TFCI CODE COMPARATOR** (labeled **92**).
- TFCI DECODING CHARACTERISTIC DETERMINATION SECTION** (dashed box **10**): Contains:
  - CORRELATION VALUE CHARACTERISTIC STORAGE UNIT** (labeled **101**): Receives input from the Fast Hadamard Transform Unit (82).
  - PEAK CORRELATION VALUE DETERMINATION UNIT** (labeled **102**): Receives input from the Storage Unit (101).
  - TFCI DETERMINATION UNIT** (labeled **103**): Receives input from the Peak Correlation Unit (102).
- TFCI BIT ERROR DETERMINATION SECTION** (dashed box **9**): Contains:
  - TFCI CODE GENERATOR** (labeled **91**): Receives input from the TFCI Determination Unit (103).
  - HARD DECISION TFCI CODE COMPARATOR** (labeled **92**): Receives inputs from the TFCI Code Generator (91) and the bypassed soft decision symbol path.
- THE NUMBER OF HARD DECISION TFCI ERROR BITS**: The final output of the Hard Decision Comparator (92).

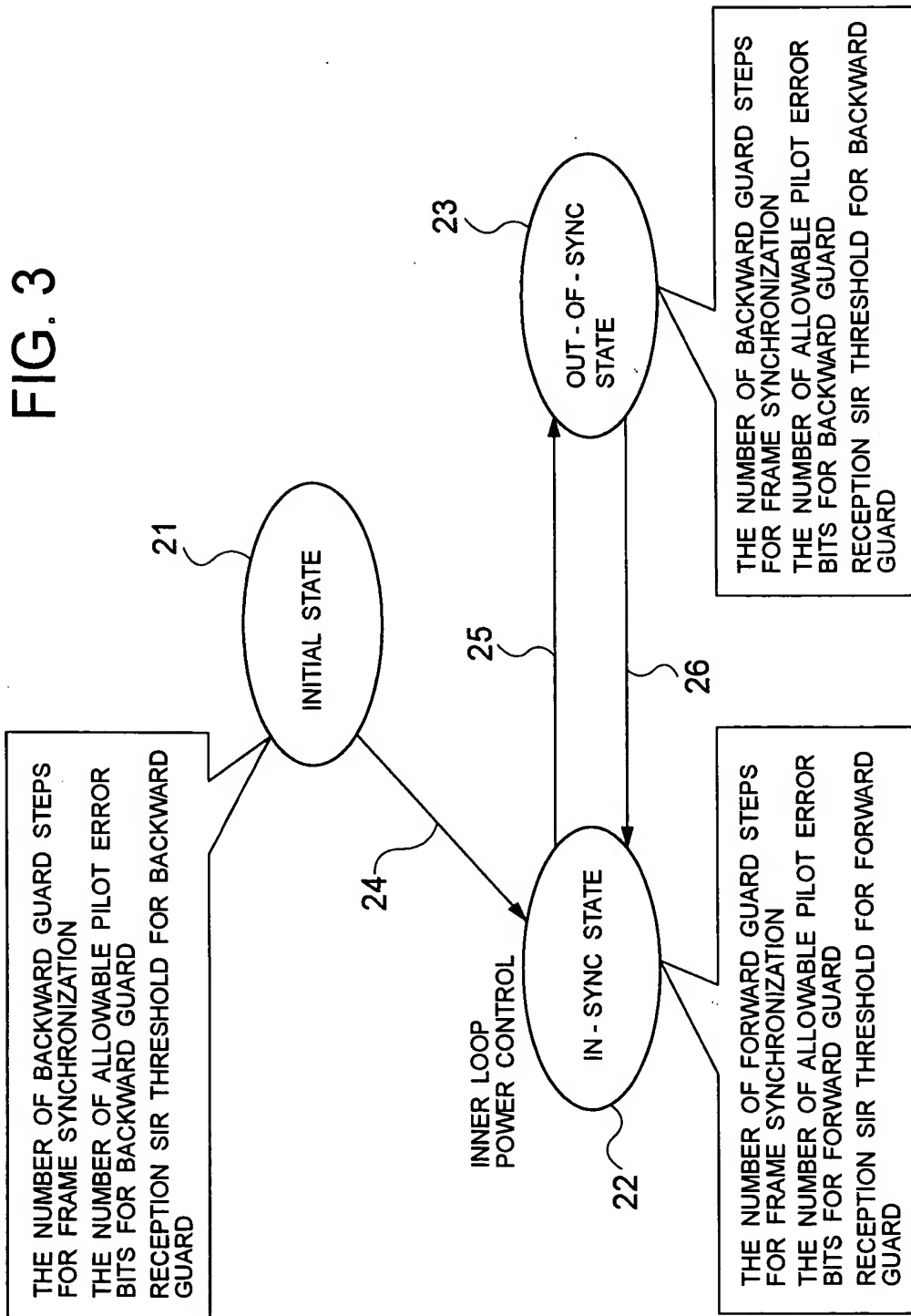
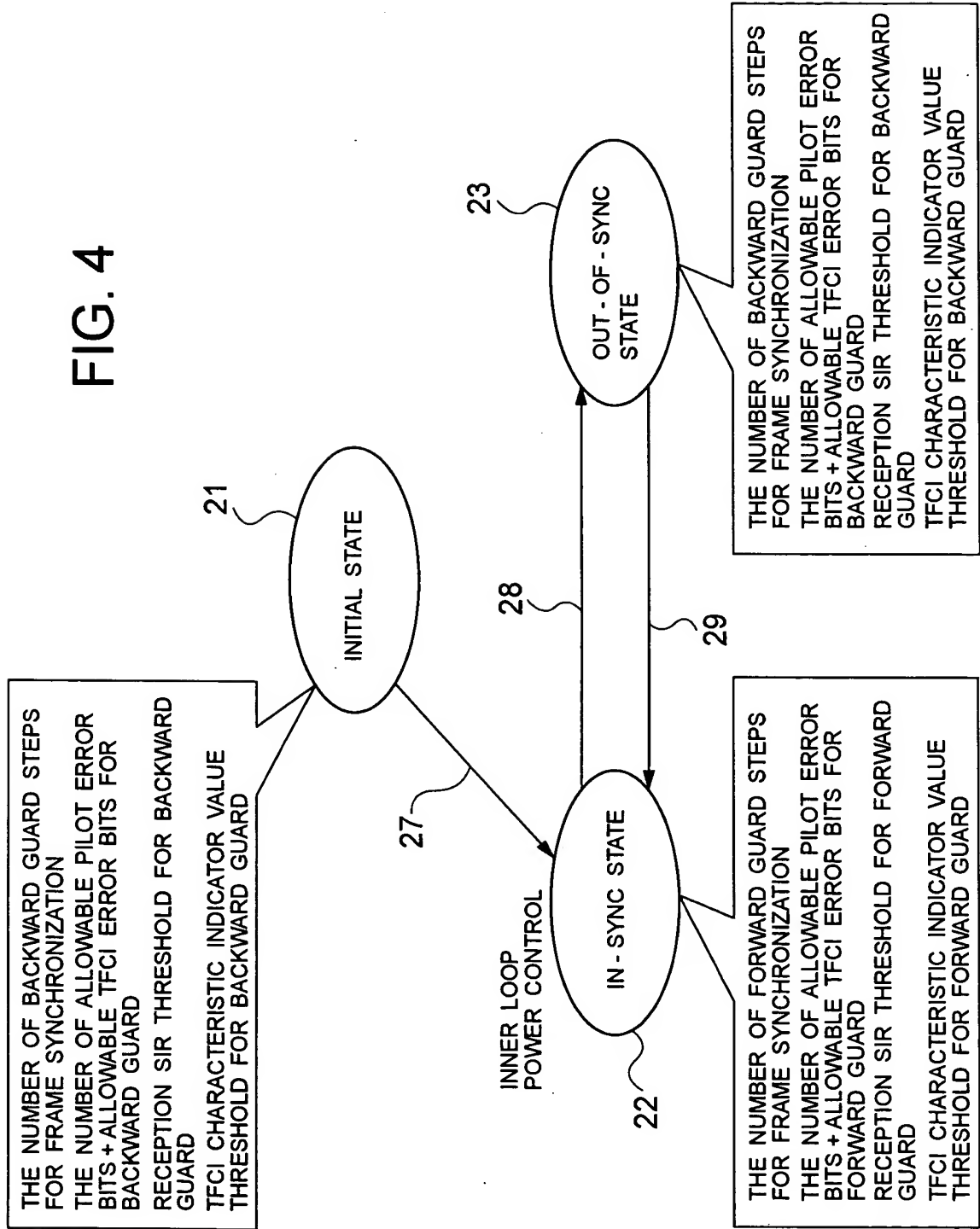
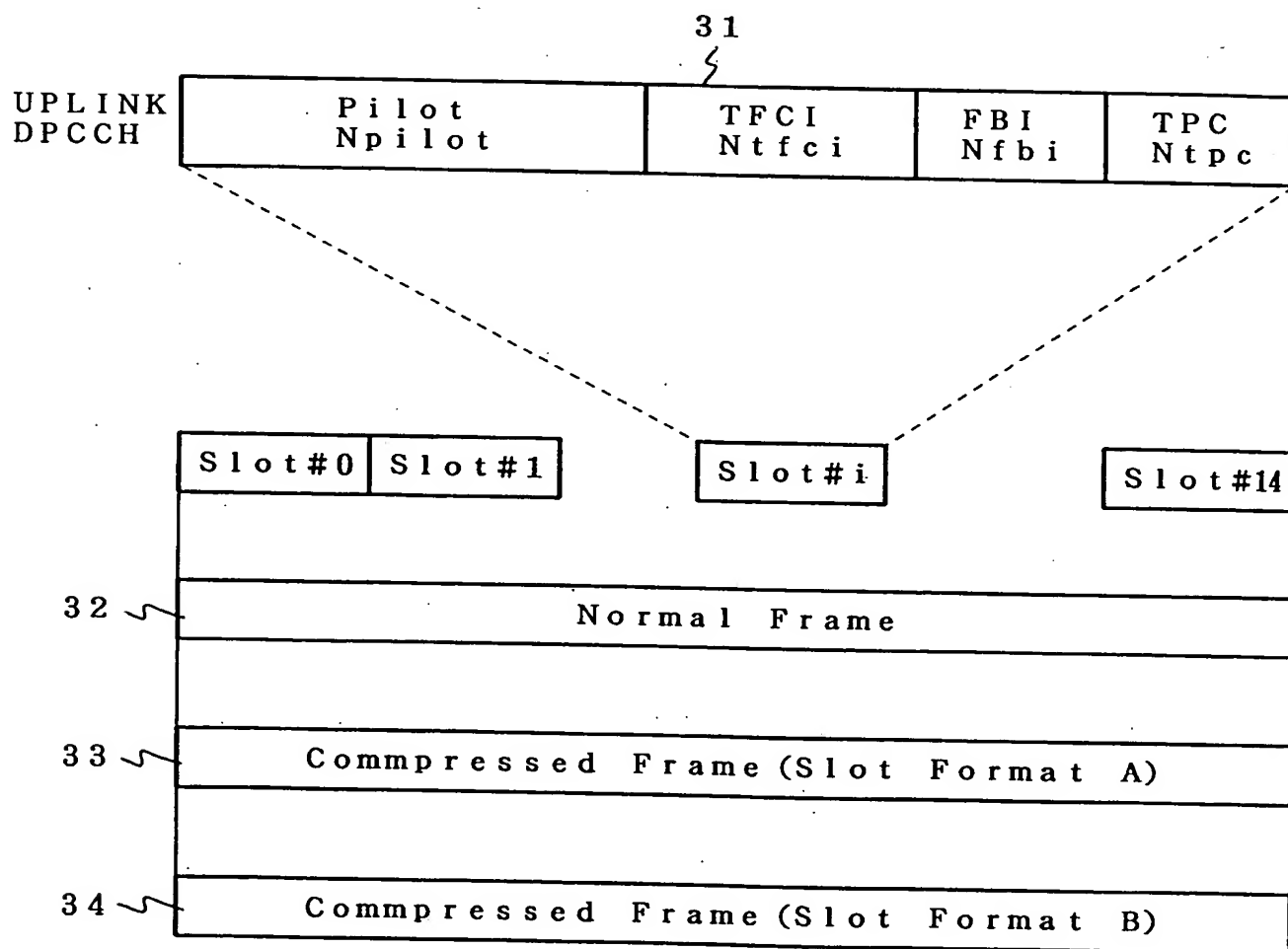


FIG. 4



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FIG. 5

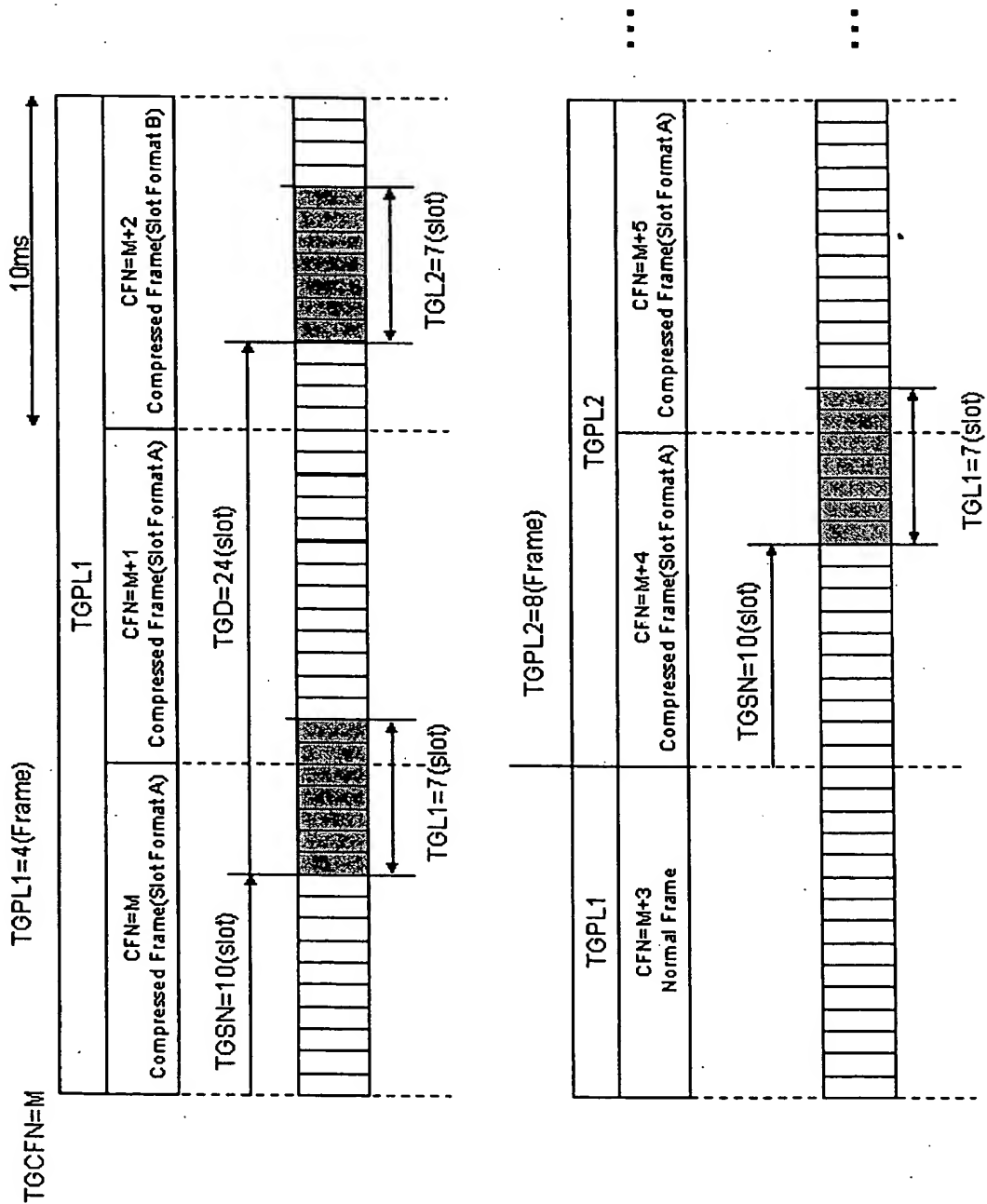


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FIG. 6

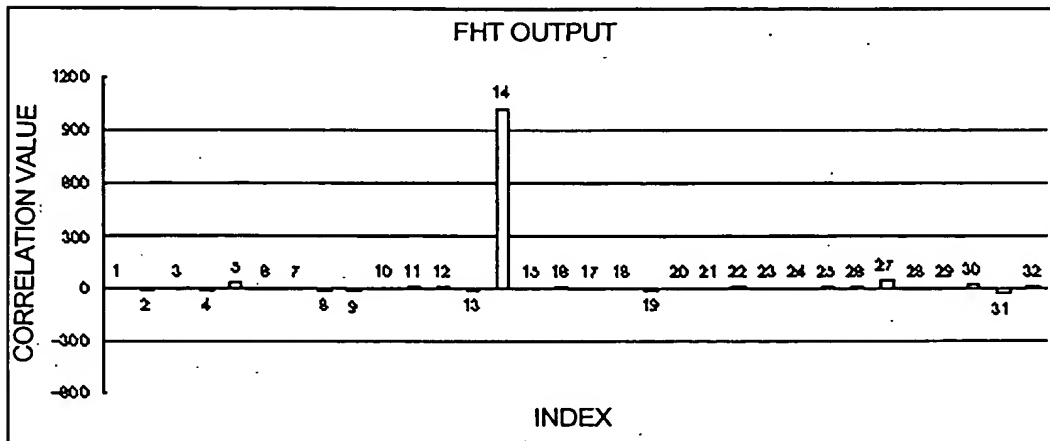
Slot Format #i	SF	Bits' Slot	Npilot	Ntpc	Ntfci	Nfbi	Transmitted slots per radio frame
0	256	10	6	2	2	0	15
0A	256	10	5	2	3	0	10-14
0B	256	10	4	2	4	0	8-9
1	256	10	8	2	0	0	8-15
2	256	10	5	2	2	1	15
2A	256	10	4	2	3	1	10-14
2B	256	10	3	2	4	1	8-9
3	256	10	7	2	0	1	8-15
4	256	10	6	2	0	2	8-15
5	256	10	5	1	2	2	15
5A	256	10	4	1	3	2	10-14
5B	256	10	3	1	4	2	8-9

FIG. 7



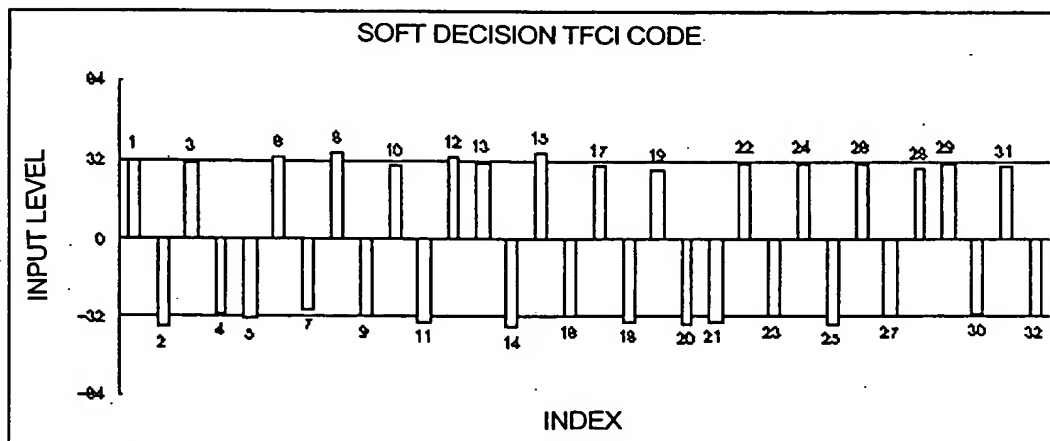
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FIG. 8A



CORRELATION VALUE AFTER HADAMARD TRANSFORM

FIG. 8B

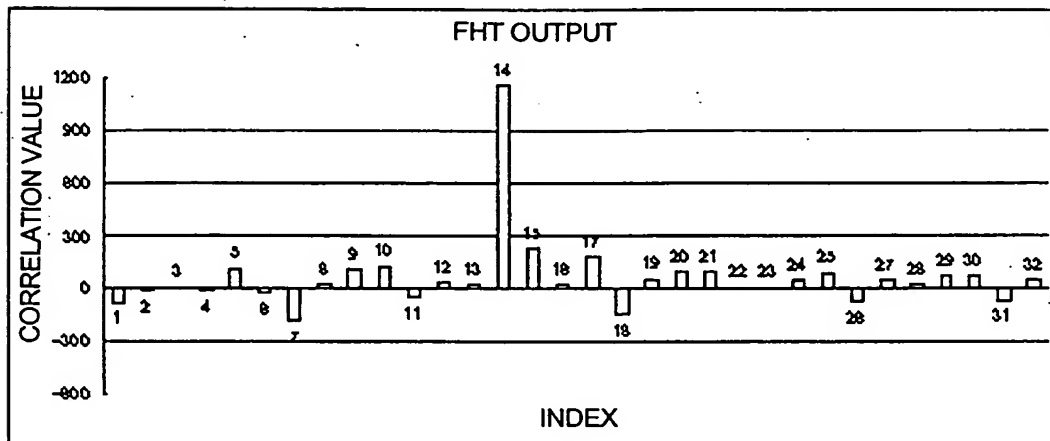


INPUT BEFORE HADAMARD TRANSFORM

REFERENCE VALUE INPUT LEVEL 32, NOISE LEVEL  $\pm 4$

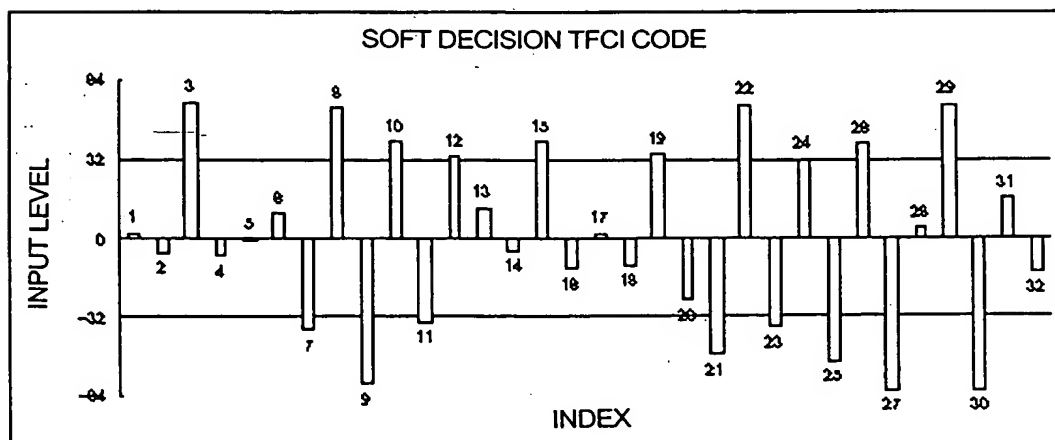
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FIG. 9A



CORRELATION VALUE AFTER HADAMARD TRANSFORM

FIG. 9B



INPUT BEFORE HADAMARD TRANSFORM

REFERENCE VALUE INPUT LEVEL 32, NOISE LEVEL  $\pm 32$

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FIG. 10A

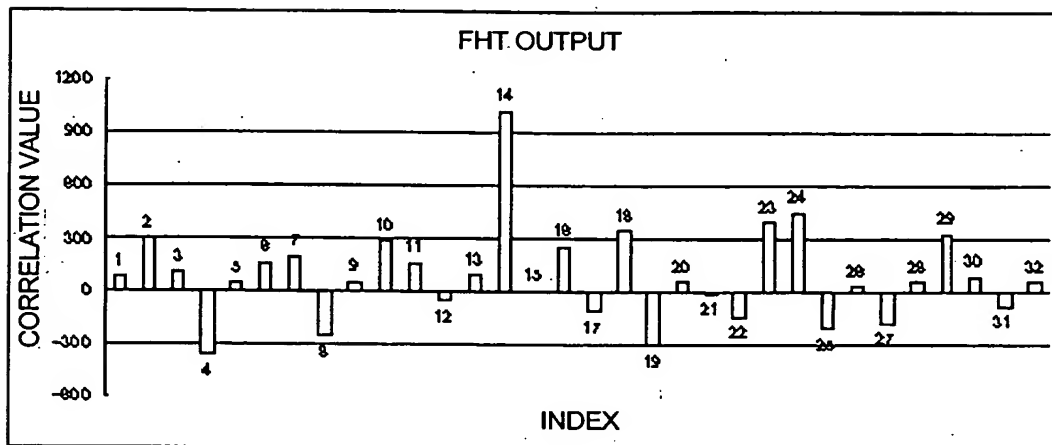
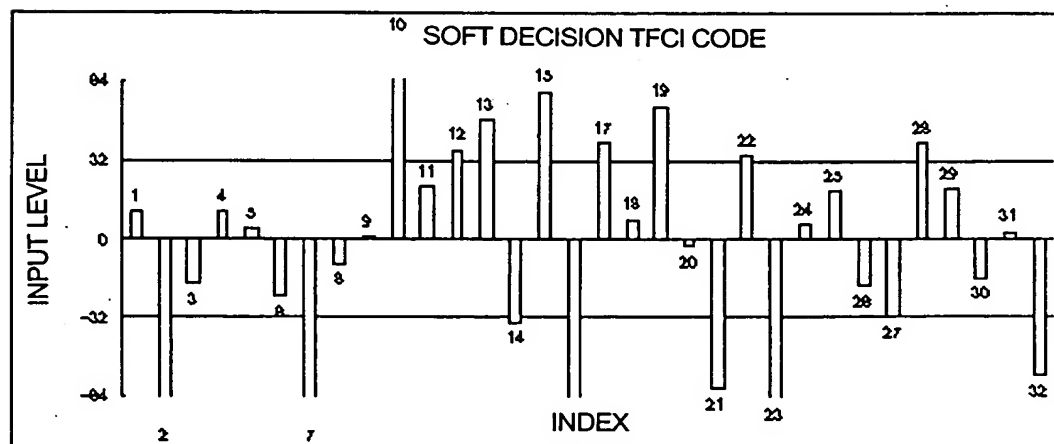


FIG. 10B



REFERENCE VALUE INPUT LEVEL 32, NOISE LEVEL  $\pm 64$

FIG. 11

NOISE LEVEL $\pm N$	TFCI DECODING CHARACTERISTIC INDICATOR VALUE
4	19.9
8	17.2
16	14.2
32	10.8
48	9.1
64	7.6
80	5.9
96	5.1